

THE SOUTH AFRICAN SPECIES OF AIZOACEAE

IX. GLINUS.

By R. S. ADAMSON.

The genus *Glinus*, founded by Linnaeus in 1753, contains about 13 species which occur in all the warmer zones in both hemispheres. In Africa it is found from the northern parts of the Union to the Mediterranean, also in Madagascar. It occurs in Southern Europe, in Spain, Sicily and the Balkans. Three species are recorded for South Africa.

The genus is allied to *Mollugo* with which it has been united (e.g. Ser. in DC. Prod. 1 : 391. 1824; Benth & Hook., Gen. Pl. 1 : 857. 1867) but differs in so many features that it is generally looked upon as distinct. The main differentiating features are the larger exstipulate leaves, the larger flowers with acute perianth segments, the more numerous stamens, and especially the numerous seeds with a prominent aril and a long funicle.

GLINUS L

Sp. Pl. 463. 1753; Gen. Pl. ed. 5. 208. 1754.

Rolofa Adans. Fam. Pl. 2 : 256. 1763.

Physa Thouars Gen. Nov. Madag. 20. 1806.

Tryphera Blume (1825) *fide* DC. Prodr. 13.2 : 422. 1849.

Nemallosis Rafn. Fl. Tell. 3 : 24. 1836.

Pauli-Wilhelmia Hochst. Flora 27 : 17. 1844.

Prostrate herbs. Leaves without stipules, mostly in whorls, separated by distinct internodes. Flowers, at the nodes, in cymes without a common peduncle. Perianth segments 5, free or almost so, acute or mucronate. Stamens 3—20 or more, when isomerous alternate with the perianth segments, when more often in groups and the outer sterile. Ovary superior, 3—5-chambered, with numerous ovules in each chamber; style wanting or very short, the stigmas spreading. Fruit thin-walled loculicidally dehiscent. Seeds many, reniform, with a fleshy aril and on a long funicle usually curved upwards.

The type species is *G. lotoides* L.

In the drier regions, on open sites liable to seasonal moisture, riverbeds, depressions, etc. In South Africa confined to the east coast and the northern parts.

Annual or perennial with annual shoots. Leaves basal and opposite or in unequal whorls, the basal withering at an early stage. Perianth

segments green outside, often yellow inside, 3—9 mm. long. Stamens with thin flattened filaments, when numerous the outermost without anthers and often 2—3-fid at the tip. These staminodes were described as petals by some of the older writers. Seeds smooth or ridged, the ridges sometimes tuberculate. Aril white, often lobed.

KEY TO THE SPECIES.

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| 1. Glabrous: leaves lanceolate or narrow-oblong; flowers 3—5 mm. long, pedicellate: stamens 3—10 | <i>oppositifolius</i> |
| 1. Hairy at least when young: flowers 5—9 mm. long: stamens 10—30. | |
| 2. Hairy all over: leaves rather large, broadly obovate to sub-rotund, with petioles as long as the blade: flowers on very short pedicels: stamens 10—20: aril half as long as the seed | <i>lotooides</i> |
| 2. Older parts glabrescent, the younger with stiff hairs: leaves small, oblanceolate, with short petioles: flowers on long pedicels: stamens 20—30: aril less than a third the length of the seed | <i>bainesii</i> |

1. **G. oppositifolius** (L.) A. DC. Bull. Herb. Boiss. 2. ser. 1 : 559. 1901.

Mollugo oppositifolia L. Sp. Pl. 89. 1753.

M. spargula L. Sp. Pl. ed. 2. 131. 1762.

M. glinoides Rich. Tent. Fl. Abyss. 1 : 48. 1847.

M. parviflora Ser. DC. Prod. 1 : 391. 1824.

M. serrulata Sond. Linnaea 23 : 15. 1850

Pharnaceum mollugo L. Mant. 2. 561. 1771 *non* Sp. Pl. ed. 2. 389. 1762.

P. oppositifolium Spreng. Syst. 1 : 949. 1825.

G. spargula (L.) Pax E. & P. Nat. Plfzf. 3 1b : 40. 1889.

G. mollugo Fenzl Ann. Wien. Mus. 1 : 359. 1834.

G. denticulatus Fenzl l.c. 361. 1834.

Glabrous or with a few appressed hairs on the youngest parts. Stems up to 50 cm. long, with internodes 1—3 cm. long. Leaves opposite or in whorls of 4—6, unequal, obovate to elliptical-oblong, 1—3 cm. long. 0.4—1 cm. wide, acute and often mucronate at the tip, at the base gradually narrowed to a short petiole, the edges entire or obscurely serrulate in the upper half. Young leaves with a few hairs on the midrib below, the older glabrous. Flowers in groups of 3—6, on pedicels 4—8 mm. long. Perianth segments 3—5 mm. long, green with a brown streak outside, white or pinkish inside, the outer flat, the inner cucullate and slightly keeled. Stamens 3—5, occasionally 10. Staminodes wanting. Stigmas 3. Seeds dark brown, with small tubercles in lines, the aril less than a third the length of the seed.

The type (Ceylon) is in herb. Hermann 1.fol.20. BM.

On damp open soil, in river beds, vleis, etc. Natal and Lowveld. Through-

out Central Africa, in all the adjoining territories. Very variable in the size and width of the leaves. Several species and varieties have been described but they seem to intergrade completely.

NATAL.

DURBAN. *Gerrard* 585: *Gueinzus*. Umbilo, *Moss* 6657. Isipingo, *Schlechter* 2804.

TRANSVAAL.

KL. LETABA RIV. *Junod* 1251.

2. *G. lotoides* L Sp. Pl. 463. 1753; Loeßl. Iter. Hisp. 145. 1759.

G. dictamnoides Burm. f. Fl. Ind. 131. 1768; L. Mant. 2.243. 1771.

Mollugo hirta Thunb. Prod. Pl. Cap. 20. 1784.

M. glinus Rich. Tent. Fl. Abyss. 1 : 48. 1847.

Pharnaceum hirtum Spreng Syst. 1 : 949. 1825.

Tryphera prostrata Blume fide. DC. Prod. 13.2 : 442. 1849.

Covered all over with rather rigid stellate and simple spreading hairs. Stems 15—50 cm. long, with internodes usually less than 1 cm. long. Lower leaves alternate, the upper in whorls of 2—4, petiolate, the blades obovate to almost orbicular, 0.5—3 cm. long, 0.5—2 cm. wide, obtuse or subacute; petioles 0.3—1.5 cm. long. Flowers solitary or more often in groups of 3—8 or more, on pedicels 1—3 mm. long. Perianth segment 3—9 mm. long, acute or mucronate, more or less keeled, the inner with broad membranous edges. Stamens 10—20 or more, rarely 3—5, the outer often without anthers. Stigmas 3 or 5. Seeds dark brown, smooth or with raised ridges, with or without tubercles, the aril about half the length of the seed.

The type is *Boccone* Icon. & Desc. Rar. Pl. Sicil. t. 11 f.B. 1674.

It is evident that in 1753 Linné knew this species only from the literature. It was fully described by Loeßling, Iter. Hisp. 145. 1758, from Spain. This description was taken over in Sp. Pl. ed. 2. 663. 1762. Loeßling's specimen has not been traced. In herb. Linn. there is a sheet 631.1. of a plant cultivated at Uppsala from seed supplied by Loeßling. The name is often attributed to Loeßling but Linné made the combination in 1753.

Throughout Central Africa, also tropical Asia, and in Australia. In Europe, in Spain, Sicily and Bulgaria.

A variable species in size, in the shape of the leaves and in the quantity of hairs. In Central Africa the species hybridises freely with *G. oppositifolius* and a large number of intermediates have been recorded. In the Union, where the areas of the two species do not overlap, such hybrids have not been noted.

(1) Var. *lotoides*.Var. *candida* Fenzl Ann. Wien. Mus. 1 : 357. 1854.

Usually rather densely hairy and white or yellowish. Leaves with the blades obovate to suborbicular, obtuse subacute or apiculate, with the veins distinctly raised below when dry, and the petiole as long as to half as long as the blade. Flowers 1—15, most commonly 3—6 in each group. Pedicels half as long as the perianth. Perianth segments 6—8 mm. long, usually densely hairy, the outer acute, slightly keeled, shortly mucronate. Stamens 10—15, rarely 5—10: staminodes wanting or few and slender. Aril of seeds more than half the length of the seed.

Apparently confined to the northern parts of South West Africa and Northern Transvaal.

SOUTH WEST AFRICA.

Kunene Riv., *Story* 5826; Omaruru, *Strey* 2407.

TRANSVAAL.

MESSINA *Moss* (Young) 14664.

N.B.: All the European specimens seen belong here.

(2) Var. *virens* Fenzl Ann. Wien. Mus. 1 : 357. 1834.Var. *pubescens* Sond. Fl. Cap. 1 : 137. 1860.

Less hairy than var. *lotoides* and usually green. Leaves narrower, not more than half as wide as long, gradually cuneate below, narrowed to a subacute or acute point, the veins not projecting on the underside. Flowers in groups of 3—20 or more, most commonly 8—12. Pedicels not more than half as long as the perianth. Perianth segments 4—5 mm. long, narrowed to an acute tip, prolonged as a distinct mucro, distinctly keeled on the back. Stamens 10—15, rarely fewer or up to 20: staminodes wanting or very slender and 2-fid. Aril not more than half the length of the seed.

The type is *Drege* Gariep Riv. W. (lost) Lectotype K. Readily distinguished by the narrow leaves without projecting veins, the smaller flowers, and the perianth segments with more pronounced keels and extended points.

SOUTH WEST AFRICA. Okavango, *de Winter* 3974; Okahandja, *Dinter* 301; Windhoek, *Moss* 18055.

CAPE.

NAMAQUALAND. Orange Riv., *Drege*; Henkries, *Schlechter*.CALVINIA. Lockerberg *Acocks* 19196.

KIMBERLEY. Shaw's Drift, Acocks 2569.

BARKLY WEST. Warrenton, Acocks 15196.

TRANSVAAL.

ZOUTPANSBERG. Messina, Moss & Rogers 57, 67a; Pafuri Riv., Codd & Dyer 4630.

PRETORIA. Aapias Riv., Burke: Zeyher 612.

In South West Africa there occur specimens which have the vegetative features of var. *lotoides* but the flowers and perianth of var. *virens*. These are probably hybrids between the two varieties, e.g. Waterberg, Bradfield 301.

In Central Africa var. *lotoides* seems to be the commoner and more widespread form. Var. *virens* occurs as far north as Tanganyika but is not recorded from Northern Africa.

3. **G. bainesii** (Oliv.) Pax in E. & P. Nat. Pflzf. 3.1b 40. 1889.

Mollugo bainesii Oliv. Fl. Trop. Afr. 2; 590. 1871.

A more rigid plant than the other species, the young parts covered with spreading hairs and short straight prickles, the older glabrescent. Stems rather stout, pale-coloured, grooved, sparsely branched, up to 40 cm. long. Leaves small, in distant or rarely close whorls of 3, oblanceolate, 0.5—1.5 cm. long, 0.3—0.5 cm. wide, acute or mucronate at the tip, gradually narrowed at the base to a short petiole; the veins not visible except a slightly raised midrib below. Leaves usually with some hairs or prickles on the midrib below and occasionally on the edges which are slightly revolute when dry. Petioles with prickles at the base. Flowers in groups of 3—9, most commonly 6. Pedicels short at first but lengthening at the fruiting stage to 0.8—2 cm., usually with some hairs or prickles. Perianth segments 7—8 mm. long, the outer acute, mucronate with hairs or prickles on the back, the inner with broad membranous margins. Stamens 20—30, usually with some simple or 3-fid staminodes. Stigmas 3. Seeds brown, with smooth or obtusely tuberculate ridges; aril small.

The type is *Baines* s.n. (Kwebe) K.

Seasonally damp sand in Portuguese East Africa, S. Rhodesia, Bechuanaland to Angola. In S. Africa restricted to the Northern Transvaal.

TRANSVAAL.

ZOUTPANSBERG. Messina Rogers 19399a; Moss (Young) 18391.

WATERBERG. Ellisons, Codd 8491; Tamboetie Riv., Meeuse & Strey 10446.

POTGIETERSRUST. Doornpoort, Meeuse 9552, 9552a.

A very distinctive species known by the small leaves, large flowers on long pedicels in the later stages, the numerous stamens, and seeds with a small aril. Rather variable in the quantity of hairs and prickles.